

Appln. Serial No. 09/330,298

2

Docket No. 500862000700

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**The List of Claims**

1. (currently amended) A compound of formula E-C<sub>a</sub>-R-C<sub>b</sub>-A, wherein E is a therapeutic or diagnostic agent, R is a reactive group, C<sub>b</sub> and C<sub>a</sub> are optional first and second connecting respectively, and A is an affinity group comprising any molecule or part of a molecule possessing specific binding determinants for a target molecule ~~having an affinity for human serum albumin, wherein affinity group A comprises a sequence of amino acid residues O<sub>1</sub>-O<sub>2</sub>-X<sub>1</sub>-X<sub>2</sub>-B in which the amino acid residues are independently selected from the group of all twenty naturally occurring amino acids.~~
2. (previously amended) A compound according to claim 58, wherein amino acid residue O<sub>1</sub> is selected from the group consisting of phenylalanine, arginine, glutamine, tyrosine, glutamic acid and tryptophan; amino acid residue O<sub>2</sub> is selected from the group consisting of leucine, arginine, glutamic acid, tryptophan and phenylalanine; amino acid residue X<sub>1</sub> is selected from the group consisting of phenylalanine, tryptophan, methionine and tyrosine; amino acid residue X<sub>2</sub> is selected from the group consisting of serine, arginine and glutamic acid; and amino acid residue B is selected from the group consisting of serine, arginine and glutamic acid.
3. (previously cancelled)
4. (previously amended) A compound according to claim 58, wherein one of the five amino acid residues is an L amino acid residue and the other four amino acid residues are D amino acid residues.

Appln. Serial No. 09/530,298

3

Docket No. 500862000700

5. (previously amended) A compound according to claim 2, wherein the L-amino acid residue is selected from the group consisting of the amino acid residue O<sub>2</sub>, the amino acid residue X<sub>1</sub>, and the amino acid residue X<sub>2</sub>.
6. (previously amended) A compound according to claim 58, wherein one of the five amino acid residues is a D-amino acid residue and the other four amino acid residues are L-amino acid residues.
7. (original) A compound according to claim 6, wherein the D-amino acid residue is selected from the group consisting of the amino acid residue O<sub>2</sub>, amino acid residue X<sub>1</sub>, and amino acid residue X<sub>2</sub>.
8. (original) A compound according to claim 7, wherein the D-amino acid residue is the amino acid residue O<sub>2</sub>.
9. (previously amended) A compound according to claim 58, wherein O<sub>1</sub> is phenylalanine and O<sub>2</sub> is leucine.
10. (previously amended) A compound according to claim 58, wherein O<sub>1</sub> is arginine and O<sub>2</sub> is arginine.
11. (previously amended) A compound according to claim 58, wherein O<sub>1</sub> is glutamine and O<sub>2</sub> is glutamic acid.
12. (previously amended) A compound according to claim 58, wherein O<sub>1</sub> is glutamic acid and O<sub>2</sub> is tryptophan.
13. (previously amended) A compound according to claim 58, wherein O<sub>1</sub> is tryptophan and O<sub>2</sub> is tryptophan.

Appl. Serial No. 09/530,298

4

Docket No. 500862000700

14. (previously amended) A compound according to claim 58, wherein O<sub>1</sub> is tryptophan and O<sub>2</sub> is glutamic acid.
15. (previously amended) A compound according to claim 58, wherein X<sub>1</sub> is tyrosine.
16. (previously amended) A compound according to claim 58, wherein X<sub>2</sub> is glutamic acid.
17. (previously amended) A compound according to claim 58, wherein B is glutamic acid.
18. (previously amended) A compound according to claim 58, wherein O<sub>1</sub> is phenylalanine, O<sub>2</sub> is D-leucine, X<sub>1</sub> is tyrosine, X<sub>2</sub> is glutamic acid, and B is glutamic acid.
19. (previously amended) A compound according to claim 58, wherein the amino acid residue B is a C-terminal amino acid residue.
20. (original) A compound according to claim 19, wherein the affinity group comprises the amino acid sequence -O<sub>1</sub>-O<sub>2</sub>-X<sub>1</sub>-X<sub>2</sub>-B-NH<sub>2</sub>.
21. (previously amended) A compound according to claim 58, wherein the reactive group comprises a functional group selected from the group consisting of carboxy, phosphoryl, alkyl esters, thioesters, phosphoesters, ortho esters, imidates, mixed anhydrides, amides, thioamine and disulphides.
22. (previously amended) A compound according to claim 21, wherein C<sub>b</sub> is absent and the reactive group is bonded directly to the O<sub>1</sub> amino acid residue in the affinity group.
23. (original) A compound according to claim 22, wherein the reactive group is bonded to the O<sub>1</sub> amino acid residue by an amide linkage.

Appl. Serial No. 09/530,298

5

Docket No. 500862000700

24. (previously amended) A compound according to claim 21, wherein the reactive group has the formula  $-X-R_1-C(O)-$ , wherein  $R_1$  comprises a substituted or unsubstituted aromatic group and X is selected from the group consisting of S, O and N.
25. (original) A compound according to claim 24, wherein X is bonded directly to an aromatic carbon atom in  $R_1$ .
26. (original) A compound according to claim 24, wherein  $R_1$  is unsubstituted phenyl.
27. (previously amended) A compound according to claim 26, wherein -X- and -C(O)- are bonded to the phenyl in a para configuration.
28. (previously amended) A compound according to claim 24, wherein  $R_1$  is phenyl substituted with one or more groups selected from the group consisting of a halogen,  $NO_2$ ,  $SO_2NH_2$ ,  $SO_2NHF$ ,  $CF_3$ ,  $CCl_3$ ,  $CBR_3$ ,  $C=N$ ,  $SO_3H$ ,  $CO_2H$ ,  $CHO$ ,  $OH$ ,  $NHCOCH_3$ ,  $OCH_3$ ,  $CH_3$  and  $CH_2CH_3$ .
29. (original) A compound according to claim 24, wherein the reactive moiety is bonded directly to the  $O_1$  residue via the carboxyl carbon.
30. (previously amended) A compound according to claim 21 wherein  $C_b$  is present.
31. (previously amended) A compound according to claim 28, wherein  $C_b$  is bonded to the reactive group via an ester, thioester, amide, sulfonate ester or sulfonamide linkage.
32. (previously amended) A compound according to claim 30, wherein  $C_b$  is bonded to the  $O_1$  amino acid residue in the affinity group via an ester, thioester, amide, sulfonamide, urea, thiourea or carbamate linkage.
33. (previously amended) A compound according to claim 30, wherein  $C_b$  comprises a backbone chain of between about 1 and about 25 atoms.

34. (previously amended) A compound according to claim 33, wherein C<sub>b</sub> comprises a backbone chain of between about 2 and about 16 carbon atoms.

35. (previously amended) A compound according to claim 30, wherein C<sub>b</sub> comprises an unsaturated carbon atom backbone chain of between about 11 and about 25 atoms.

**Claims 36-39 (previously cancelled)**

40. (previously amended) A compound according to claim 58 wherein C<sub>a</sub> is present.

41. (previously amended) A compound according to claim 40, wherein C<sub>a</sub> is bonded to B by an ester, thioester, amide, sulfonate ester or sulfonamide linkage.

42. (previously amended) A compound according to claim 40, wherein C<sub>a</sub> is bonded to the reactive group by an ester, thioester, amide or sulfonate ester linkage.

43. (previously amended) A compound according to claim 40, wherein C<sub>a</sub> comprises a backbone chain of between about 1 and about 25 atoms.

44. (previously amended) A compound according to claim 43, wherein C<sub>a</sub> comprises a backbone chain of between about 2 and about 16 carbon atoms.

45. (previously amended) A compound according to claim 40, wherein C<sub>a</sub> comprises an unsaturated carbon atom backbone chain of between about 1 and about 25 atoms.

46. (previously amended) A compound according to claim 1, wherein the diagnostic agent comprises biotin.

47. (previously amended) A compound according to claim 46, wherein biotin is bonded directly to the reactive group by an ester, thioester or amide linkage.

Appln. Serial No. 09/530,298

7

Docket No. 500862000700

48. (previously amended) A compound according to claim 46, wherein the reactive group has the formula  $-X-Ph-C(O)-$ , and wherein X is oxygen, sulfur or nitrogen.
49. (previously amended) A compound according to claim 48, wherein the  $-X-$  and  $-C(O)-$  on the phenyl group are bonded in a para configuration.
50. (previously amended) A compound according to claim 47 wherein  $C_a$  is present.
51. (previously amended) A compound according to claim 50, wherein  $C_a$  is bonded to the biotin group by an amide linkage.
52. (previously amended) A compound according to claim 50, wherein  $C_a$  is  $-NH-(CH_2)_n-C(O)-$ , wherein n is an integer between 1 and 25.
53. (previously amended) A compound according to claim 52, wherein  $C_a$  is  $-NH-(CH_2)_5-C(O)-$ .
54. (previously amended) A compound according to claim 52, wherein  $C_a$  is  $-NH-CH_2-C(O)-$ .
55. (original) A compound selected from the group consisting of biotin-S-Ph-C(O)-F/YEE-NH<sub>2</sub>, biotin-OPh-C(O)-F/YEE-NH<sub>2</sub>, LC-biotin-S-Ph-C(O)-F/YEE-NH<sub>2</sub>, biotin-Gly-OPh-C(O)-F/YEE-NH<sub>2</sub>, fluorescein-Gly-OPh-F/YEE-NH<sub>2</sub>, LC-biotin-OPh-C(O)-F/YEE-NH<sub>2</sub>, argatroban-AEA<sub>3</sub>-βAla-Gly-OPh-C(O)-F/YEE-NH<sub>2</sub>, and fluorescein-thiourea-AEA<sub>3</sub>-Gly-OPh-C(O)-F/YEE-NH<sub>2</sub>.

**Claims 56 and 57 (previously cancelled)**

58. (previously introduced) A compound as claimed in claim 1, wherein the target molecule comprises human serum albumin, and the affinity group A comprises a sequence of amino acid

Appln. Serial No. 09/530,298

8

Docket No. 500862000700

residues  $-O_1-O_2-X_1-X_2-B-$  wherein the amino acid residues are independently selected from the group consisting of all twenty naturally occurring amino acids in either L or D configuration.

59. (previously introduced) A compound as claimed in claim 1, wherein E is Argatroban,  $C_a$  is  $AEA_3-\beta\text{Ala-Gly}$ , R is  $-O-\text{Ph}-C(O)-$ ,  $C_b$  is absent, and A is  $\text{FLYEE-NH}_2$ .